GV-NX66T128D/ GV-NX66T128VP/ GV-NX66T128VP-E

GeForce™ 6600 GT Graphics Accelerator

User's Manual

Rev. 104

12MD-NX66T128D-104

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Notice

Please do not remove any labels on VGA card, this may void the warranty of this VGA card.

Due to rapid change in technology, some of the specifications might be out of date before publication of this booklet.

The author assumes no responsibility for any errors or omissions that may appear in this document nor does the author make a commitment to update the information contained herein.

English

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1. Introduction

1.1. Features

- Powered by **NVIDIA® GeForce™ 6600 GT** Graphics Processing Unit (GPU)
- Supports the newest PCI Express x 16
- Integrated with 128MB DDRIII memory
- Supports DirectX 9.0c
- Supports NVIDIA® SLI™ (Scalable Link Interface) technology note
- Supports AV / S-Video and HDTV output
- Supports video capture for video editing (VIVO) (only for GV-NX66T128VP/GV-NX66T128VP-E)
- Provides D-Sub and DVI-I connectors

1.2. Minimum system requirements

- IBM® or 100% PC compatible with Pentium® III 650MHz or AMD Athlon 650MHz class processor or higher
- One PCI Express x 16 slot
- Operating Systems Win® 2000 / Win® XP
- 64MB system memory
- 50MB of available disk space for full installation
- CD-ROM or DVD-ROM drive

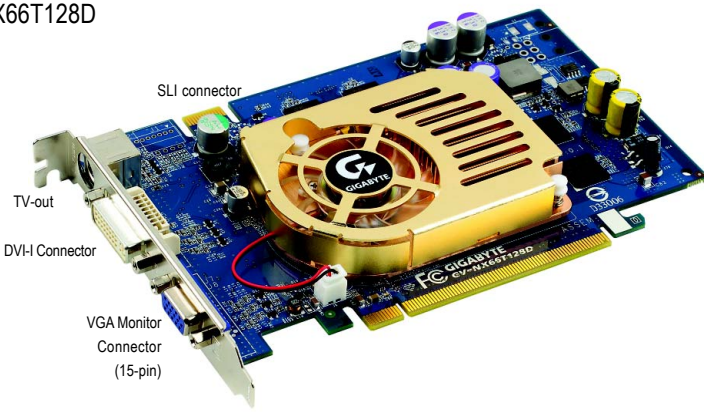
Note: SLI technology requires a PCI Express motherboard with two x16 physical connectors. Graphics cards working in an SLI configuration must be with the same model name (i.e. GV-NX66T128D) and from the same vendor (i.e. GIGABYTE TECHNOLOGY).

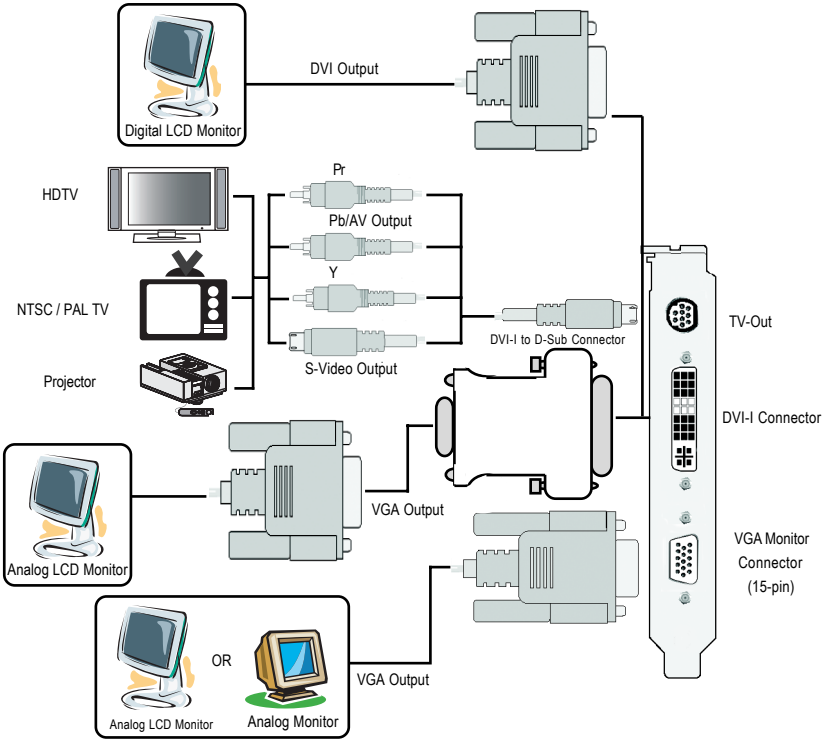
English

2. Hardware Installation

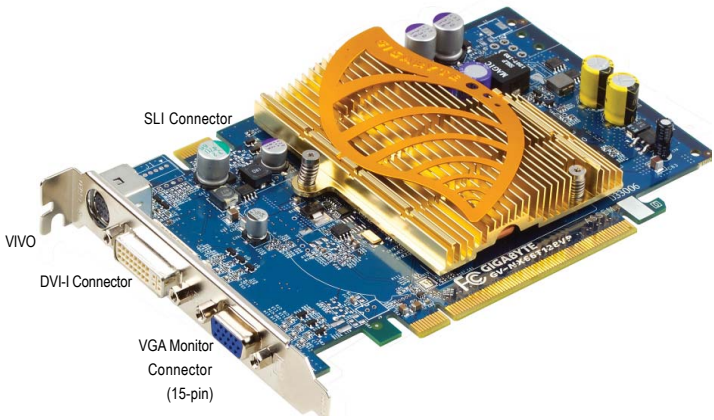
2.1. Board Layout

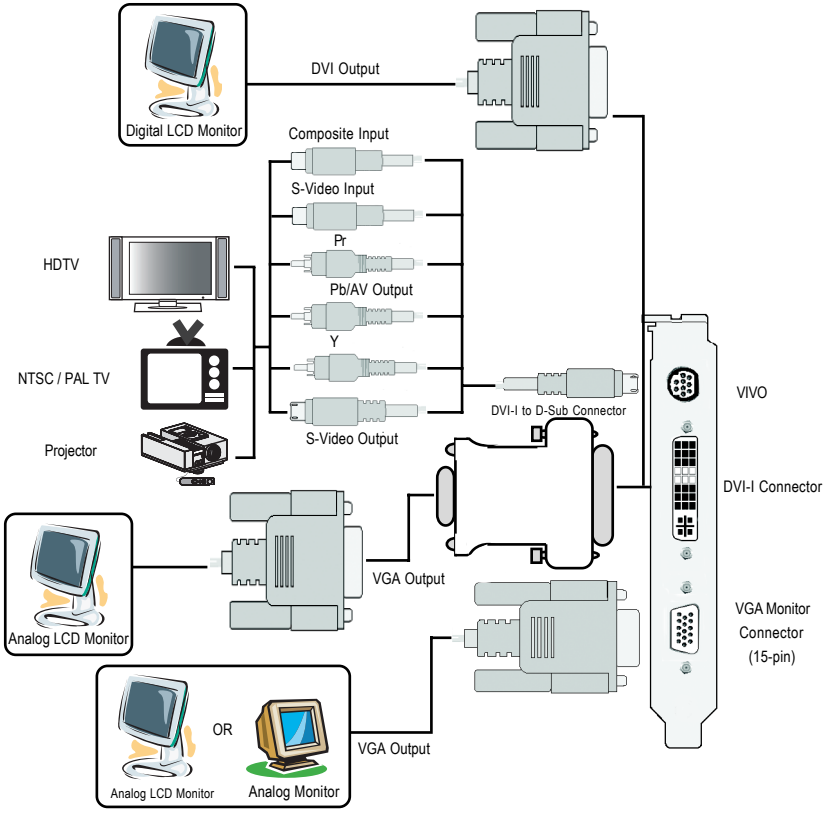
1. GV-NX66T128D





2. GV-NX66T128VP/GV-NX66T128VP-E





Expansion cards contain very delicate Integrated Circuit (IC) chips. To protect them against damage from static electricity, you should follow some precautions whenever you work on your computer.

1. Turn off your computer and unplug power supply.
2. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of your hands to a safely grounded object or to a metal object, such as the power supply case.
3. Place components on a grounded antistatic pad or on the bag that came with the components whenever the components are separated from the system.

The card contains sensitive electric components, which can be easily damaged by static electricity, so the card should be left in its original packing until it is installed.

Unpacking and installation should be done on a grounded anti-static mat. The operator should be wearing an anti-static wristband, grounded at the same point as the anti-static mat.

Inspect the card carton for obvious damage. Shipping and handling may cause damage to your card. Be sure there are no shipping and handling damages on the card before proceeding.

- **DO NOT APPLY POWER TO YOUR SYSTEM IF IT HAS BEEN DAMAGED ON THE CARD.**
- **In order to ensure your graphics card working correctly, please use official Gigabyte BIOS only. Use none official Gigabyte BIOS might cause problem on the graphics card.**

2.2. Hardware installation

Installing Your graphics card.

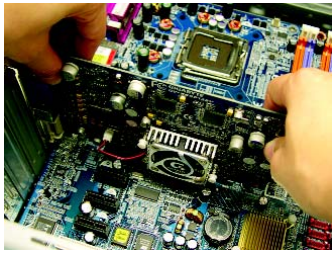
Now that you have prepared your computer, you are ready to install your graphics accelerator card.

To install your graphics accelerator card:

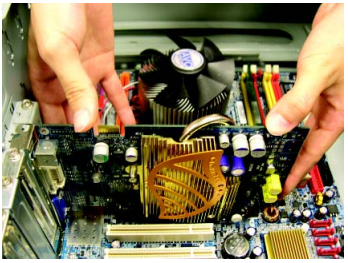
1. Power off the computer and monitor, then disconnect the display cable from the back of your computer.

2. Remove the computer cover. If necessary, consult your computer's manual for help in removing the cover.

3. Remove any existing graphics card from your computer.
   Or, if your computer has any on-board graphics capability, you may need to disable it on the motherboard. For more information, please see you computer documentation.



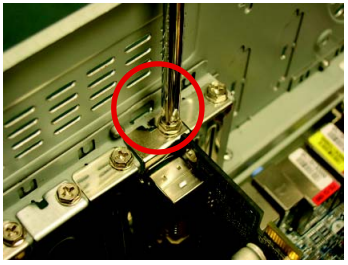
4. Locate the PCI Express x 16 slot. If necessary, remove the metal cover from this slot; then align your graphics card with the PCI Express x 16 slot, and press it in firmly until the card is fully seated.



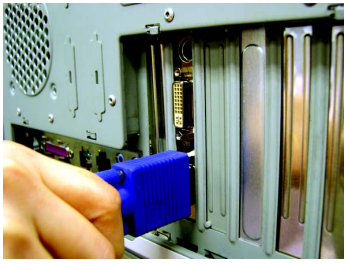
CAUTION

Warning!
When installing the graphics card, do not push down the heat pipe. This may displace the heat pipe and cause bad contact between the GPU and thermal pad as well as affect the heat dissipation. To avoid system instability, do not touch the graphics card when it is runnnig .

5. Replace the screw to fasten the card in place, and replace the computer cover.



6. Plug the display cable into your card; then turn on the computer and monitor. If your graphics card came with a DVI-I connector, you can connect a flat panel display to the appropriate connector, as shown below...



To VGA Monitor

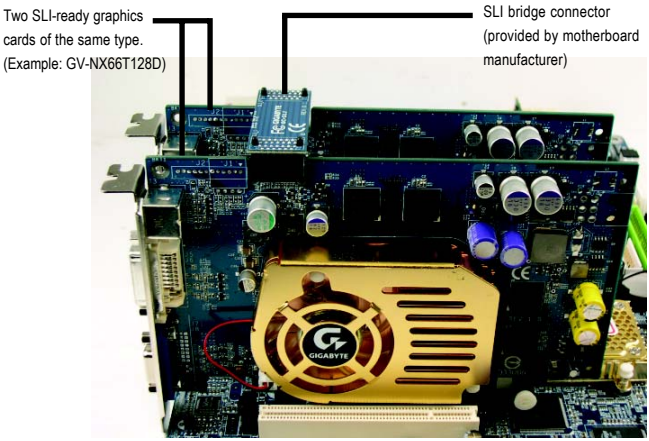
To Flat Panel Display

To TV/VCR/VIVO

You are now ready to proceed with the installation of the graphics card driver. Please refer to next chapter for detailed instructions.

How NVIDIA® SLI™ (Scalable Link Interface) technology works:

In an SLI configuration, two SLI-ready graphics cards with the same model and from the same manufacturers are connected together via SLI bridge connector in a system that provides two x 16 PCI Express slots to scale graphics performance. The picture below shows that two graphics cards are linked in parallel in an SLI configuration.


Two SLI-ready graphics cards of the same type. (Example: GV-NX66T128D)
SLI bridge connector (provided by motherboard manufacturer)

For more information about the hardware configuration of an SLI system, please refer to motherboard user manual.

3. Software Installation

In this manual, we assume that your CD-ROM Drive to be Drive D:

The installation of Win® 2000 / Win® XP drivers is very simple. When you insert the driver CD into your CD-ROM drive, you can see the AUTORUN window (if it does not show up, run "D:\setup.exe"). Then you can follow the guides to setup your graphics card driver. (Please follow the subsection 3.1.3 "Driver installation" to install the driver for your graphics accelerator.)

3.1. Win® XP driver and utilities installation

3.1.1. Operating system requirement

- When loading the graphics card drivers for the system, please make sure you have installed DirectX 9 or later version to your system.

- If you install the graphics card drivers for the motherboard built on SIS or VIA chipsets, please install the appropriate driver program for that motherboard. Or please contact your motherboard nearest dealer for motherboard driver.

3.1.2. DirectX installation

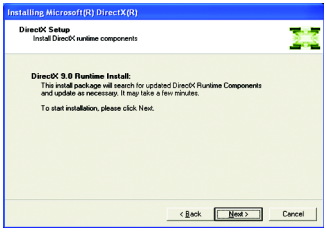
Install Microsoft DirectX to enable 3D hardware acceleration support for Windows® 2000 or Windows® XP to achieve better 3D performance.

Note: For software MPEG support in Windows® 2000 or Windows® XP, you must install DirectX first.

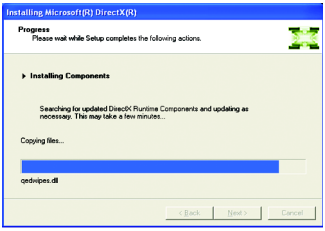
Step 1. When the autorun window showes up, click the "Install DirectX 9" item.

Click the "Install DirectX 9" item.

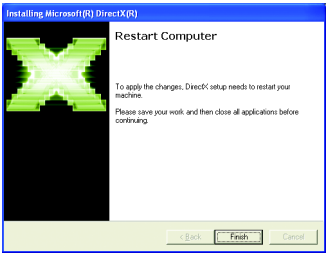
Step 2. Select the **I accept the agreement** check box and click the "Next" button.



Step 3. Click the "Next" button again to begin DirectX 9 installation.


Installing Microsoft(R) DirectX(R)
Progress
Please wait while Setup completes the following actions.
Installing Components
Searching for updated DirectX Runtime Components and updating as necessary. This may take a few minutes...
Copying files...
qedwipes.dll
< Back
Next >
Cancel

Installing the components.


Installing Microsoft(R) DirectX(R)
Restart Computer
To apply the changes, DirectX setup needs to restart your machine.
Please save your work and then close all applications before continuing.
< Back
Finish
Cancel

Step 4. Click "Finish" to restart computer.

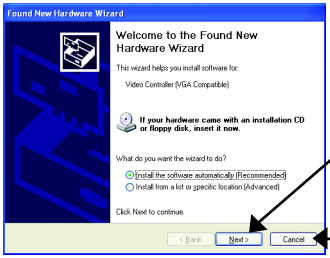
Then the DirectX 9 installation is completed.

3.1.3. Driver installation

A. New hardware found

After the graphics card is inserted into your computer at the first time, the windows will automatically detect a new hardware in the system and pop out a "New Hardware Found" message. The following is the step-by-step installation guide.

Step 1: Found new hardware wizard: Video controller (VGA Compatible)

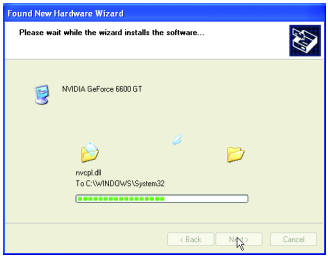

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install software for:
Video Controller (VGA Compatible)
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

Click the "Next" button to install the driver. (There is a driver CD disk that came with your graphics accelerator, please insert it now.)

Or click the "Cancel" button to install the driver from AUTORUN window.

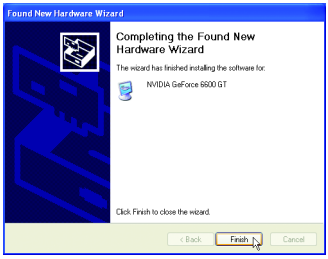
Step 2: Found new hardware wizard: Searching and installing

The wizard will search for the driver and install it automatically.



Step 3: Found new hardware wizard: Finish

Click the "Finish" button to finish the installation.

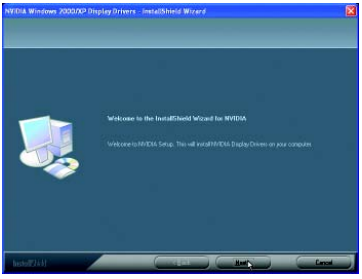

Found New Hardware Wizard
Completing the Found New Hardware Wizard
The wizard has finished installing the software for:
NVIDIA GeForce 6600 GT
Click Finish to close the wizard.
< Back
Finish
Cancel

B. Driver installation (Autorun Window)

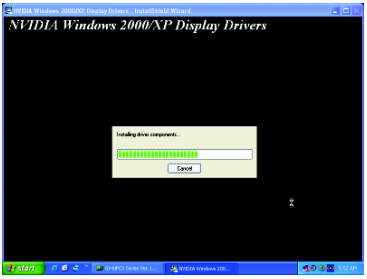
Insert the driver CD disk into your CD-ROM, and then you can see the AUTORUN window. If it does not show up, please run "D:\setup.exe".

Step 1. When autorun window show up, click **Install Display Driver** item.

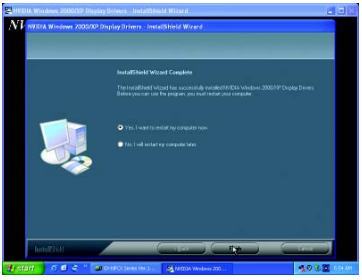
Click the "Install Display Driver" item.



Step 2. Click the "Next" button.



Windows installs the driver components.



Step 3. Click the "Finish" button and restart computer. Then the driver installation is completed.

3.1.4. Utilities on driver CD

Insert the driver CD disk into your CD-ROM, and then you can see the AUTORUN window. If it does not show up, please run "D:\setup.exe".

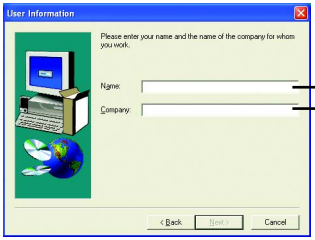
- Install V-Tuner 2:

Step 1.Click the "Utilities" item.

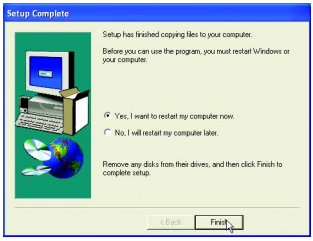
Step 2.Click the "GIGABYTE Utility" item.

Welcome
Welcome to the VGA Utility Manager Setup program. This program will install VGA Utility Manager on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup program.
Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
Next >
Cancel

Step 3. Click the "Next" button.



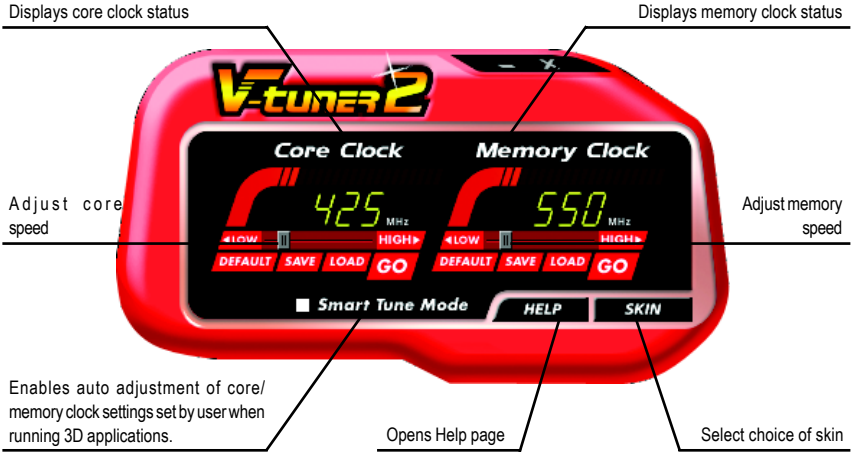
Step 4. Enter your name and company.


Setup Complete
Setup has finished copying files to your computer.
Before you can use the program, you must restart Windows or your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
< Back
Finish

Step 5. Click the "Finish" button and restart computer. Then the V-Tuner2 installation is completed.

V-Tuner 2

V-Tuner 2 lets you adjust the working frequency of the graphic engine and video memory (Core Clock and Memory Clock).

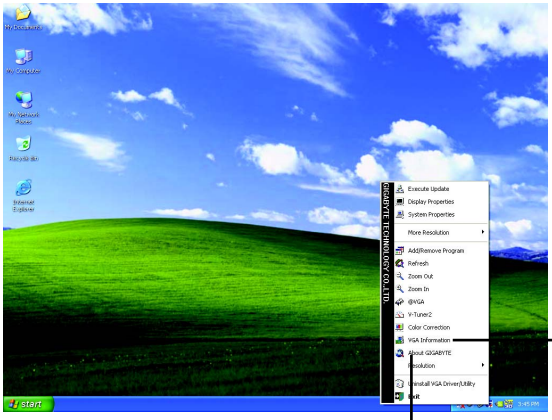


3.1.5. Taskbar icon

After installation of the display drivers, you will find a GBT icon on the taskbar's status area. Right-click this icon to open the GBT control panel, showing a menu composed of shortcut of the graphics card's enhanced and other functions.

You may click the "Display Properties" item, and then click Settings. Click "Advanced" after clicking Settings. Click the appropriate tab to change your display settings.

Right click the icon.

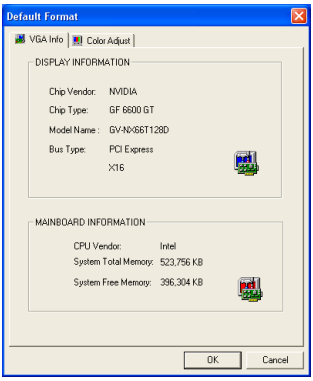


Click "VGA Information" item into the "VGA Info" and "Color Adjust" tabs.

You can link to GBT website for updated information about the graphics accelerator, latest drivers, and other information.

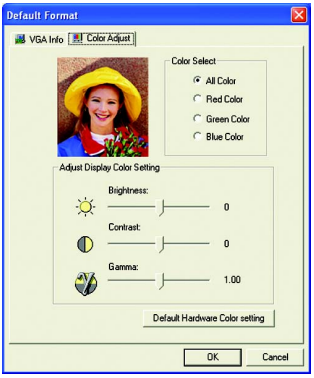
VGA Information

VGA Info lists the relevant information about your card.



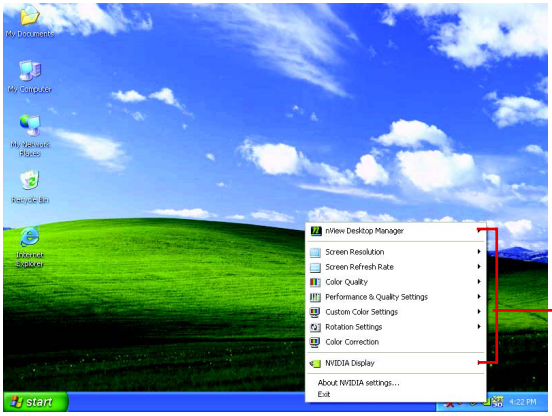
Color Adjust

Color Adjust allows you to make color adjustments, such as brightness, contrast and gamma values for each or all of RGB colors.



After installation of the display drivers, you will find a NVIDIA icon on the taskbar's status area. Click this icon to open the control panel.

Right click the icon.



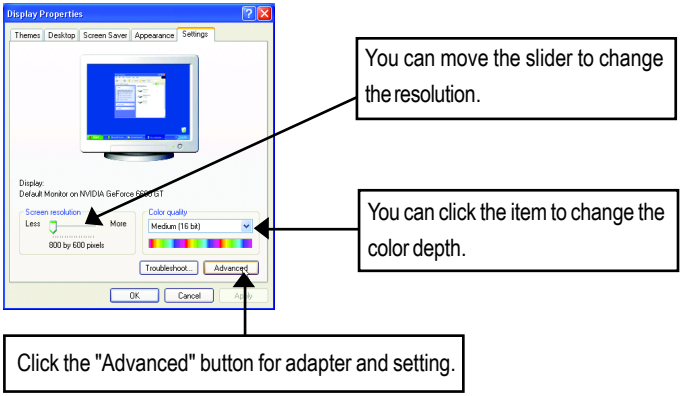
You can adjust the properties of the graphics accelerator from here.

3.1.6. Display properties pages

To access Display Properties pages, right-click the GBT icon on the taskbar and select **Display Properties** or right-click on Desktop and then select **Properties**. The **Display Properties** dialog box shows the information of display adapter, color, the range of display area, and the refresh rate.

Settings (Resolutions and Color depth for Windows)

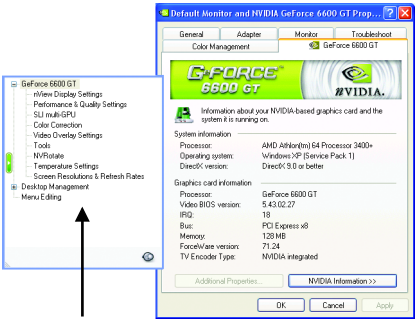
You may adjust the screen resolution and color quality settings in this dialog box.



To access more advanced options, click the "Advanced" button.

GeForce 6600 GT properties

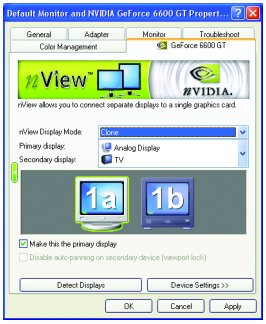
After pressing the "Advanced" button in **Settings**, you'll see the **Default Monitor and NVIDIA GeForce 6600 GT Properties** dialog box. Click the **GeForce 6600 GT** tab. (You can also click the Nvidia icon on the taskbar and select **Nvidia Display** to access the GeForce 6600 GT properties page.)



- This page shows the Adapter, System and Driver version information.

You can select other properties from the pop-out menu.

nView Display Settings properties *

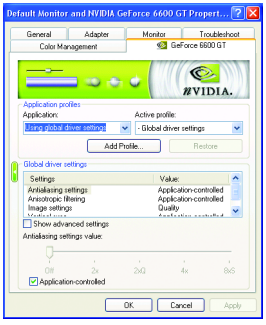


- nView allows you to connect separate displays to single graphics card.
  - nView modes: select your preferred nView display modes here. Options: Single display/ Clone/ Horizontal Span/ Vertical Span/ Dualview
  - Display pair: select a single display or display pair. The selected display combination will appear in the graphical representation below.
- If TV is chosen as the display, you will need to select the proper TV format. To do this, click "Device Setting" followed by "Select TV format". Select the format for your television and then click "Apply" followed by "OK".

Display Matrix	Model	GV-NX66T128D	GV-NX66T128VP/VP-E
	CRT+TV	Yes	Yes
	CRT+DVI	Yes	Yes
	DVI+TV	Yes	Yes

"*" This feature will not be available when SLI multi-GPU is enabled.

Performance and Quality Settings properties



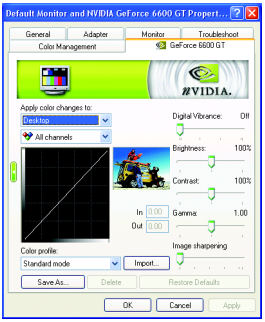
- The sliders lets to decide whether your application should use quality or high performance texture.
  - Application profiles: Select the application profile from the list of profiles.
  - Global driver settings: Select the Settings item and move the slider below to set the degree of antialiasing to used in Direct3D and OpenGL applications.
  - Antialiasing settings value: allows to set the degree of the Global Driver Settings.

SLI multi-GPU *

- To enable SLI mode, select the **Enable SLI multi-GPU** check box and click **Apply** after installation of two GV-NX66T128D/VP/VP-E graphics cards on an SLI-capable motherboard. Then restart your system when prompted.

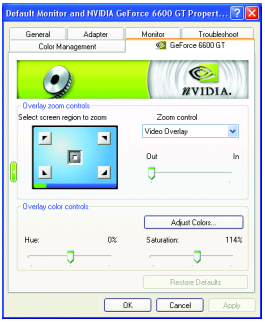
"*" Only Windows XP operating system supports the SLI mode. Please do not enable SLI multi-GPU in Windows 2000.

Color Correction properties



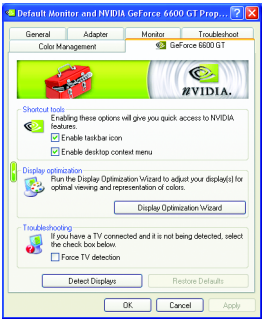
- **The Color Correction Properties** is used to compensate for variations in luminance between a source image and its output on a display device. Adjust the color correction settings to provide more accurate color reproduction of images (such as photographs) on your display device. Also, many 3D-accelerated games may appear too dark to play. Increasing the brightness and/or the gamma value equally across all channels makes these games appear brighter and more playable.

Video Overlay Settings properties



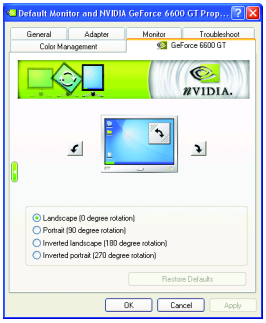
- **The Video Overlay Settings Properties** can adjust Overlay zoom controls and Overlay color controls. There is only one video overlay, which is only available on the **Primary** display. The video overlay controls are automatically activated during playback of any video file type that supports overlay adjustments. The "Adjust Colors" button will access "Color Correction" properties page.

Tools properties



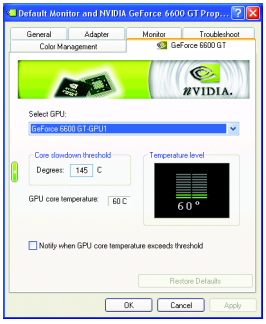
- The NVIDIA settings taskbar utility lets you conveniently access various features and presets you've configured in the Display Properties directly from the Windows taskbar.
  - Shortcut tools
    The Desktop Manager provides enhanced nView multi-display functionality and helps you organize your applications for use with multiple displays and desktops.
  - Display optimization
    Run the Display Optimization Wizard to adjust your display(s) for optimal viewing and representation of colors.
  - Troubleshooting
    This option can be used to force detection of an attached TV set which does not report its presence to the graphics card.

NV Rotate properties



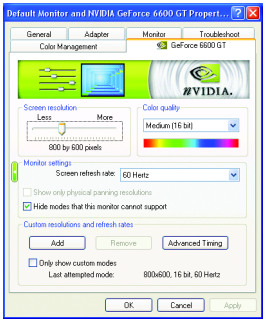
- The **NV Rotate Properties** is used to rotate the screen. If your monitor is capable of operating in either Landscape or Portrait mode, you can adjust the screen by this properties.
  - Landscape (0 degree rotation)
  - Portrait (90 degree rotation)
  - Inverted landscape (180 degree rotation)
  - Inverted portrait (270 degree rotation)

Temperature Settings properties



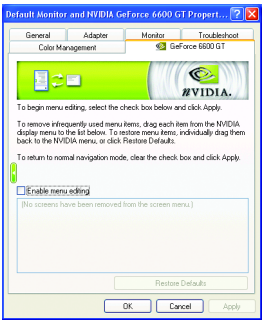
- The **Temperature Properties** can auto detected the GPU Core temperature. You can select the **Notify when GPU core temperature exceeds threshold** check box.

Screen Resolutions & Refresh Rates properties



- The **Screen Resolutions & Refresh Rates Properties** allows you to adjust the screen resolution, color quality and monitor settings (screen refresh rates). Or you can customize resolutions and refresh rates.

Menu Editing properties


Default Monitor and NVIDIA GeForce 6600 GT Propert...
General
Adapter
Monitor
Troubleshoot
Color Management
GeForce 6600 GT
NVIDIA
To begin menu editing, select the check box below and click Apply.
To remove infrequently used menu items, drag each item from the NVIDIA display menu to the list below. To restore menu items, individually drag them back to the NVIDIA menu, or click Restore Defaults.
To return to normal navigation mode, clear the check box and click Apply.
Enable menu editing
(No screens have been removed from the screen menu.)
Restore Defaults
OK
Cancel
Apply

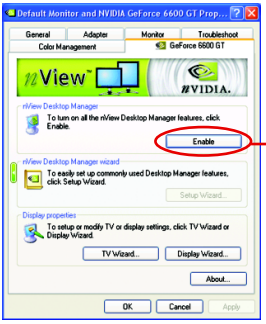
- The **Menu Editing Properties** can remove infrequently used screens by dragging them from the screen menu to the list below. Restore screens to the menu by dragging them individually, or click Restore Defaults.
  To begin, select the **Enable menu editing** check box. To return to normal navigation mode, do not select the check box.

3.1.7. nView properties pages

nView is a set of desktop tools designed to help you be more productive when using your graphics card. With **nView** you can set up multiple desktops to work with your applications. Multiple desktops give you extra desktop areas on which to run your applications so you won't have to crowd several open application windows on one desktop.

Enable the nView Desktop Manager features:

Right-click on desktop and choose Properties>Settings>Advanced>GeForce 6600 GT> Desktop Management

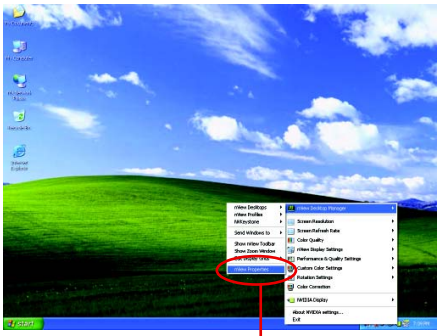


Click the "Enable" button to turn on all the nView Desktop Manager features.

Access nView properties page:

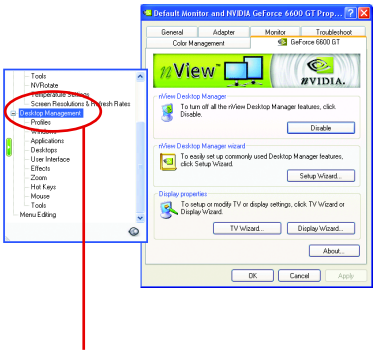
To access the **nView** properties page, you can click the NVIDIA icon on the taskbar and select **nView Properties** under **nView Destop Manager** (Method A). Or right-click on Desktop, select Properties>Settings>Advanced>GeForce 6600 GT. Double-click **Desktop Management** item on the pop-up menu (Method B).

Method A:



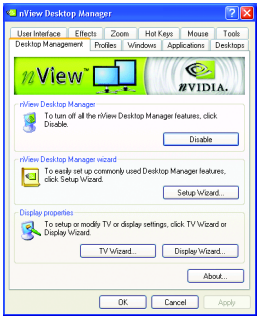
Click the item to start nView Properties.

Method B:



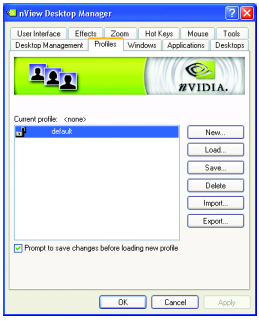
Double-click Desktop Management to see more nView properties.

nView Desktop Management properties



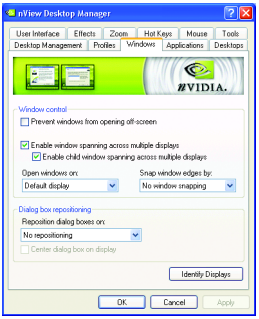
- This tab contains information about the nView Desktop Manager. The setup wizard can also be accessed from this tab.

nView Profiles properties



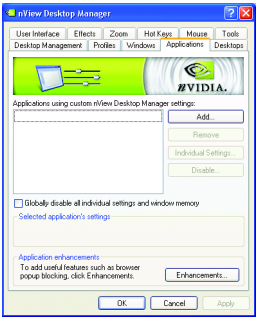
- This tab contains a record all nView display settings for easy software setup.

nView Windows properties



- This tab allows you to control window and dialog box placement when using multiple monitors.

nView Applications properties

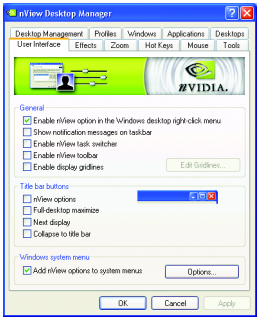


- This tab allows you to control nView settings depending different applications.

nView Desktops properties

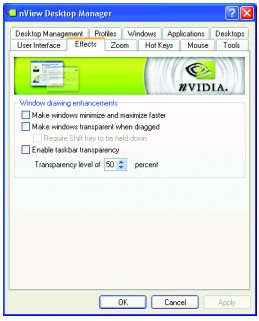
- This tab allows you to create up to 32 unique desktops.

nView User Interface properties



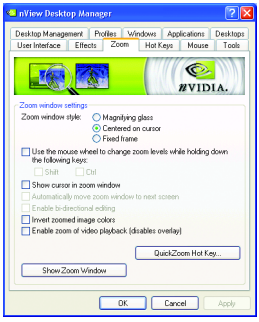
- This tab allows for customization of the nView user interface.

nView Effects properties



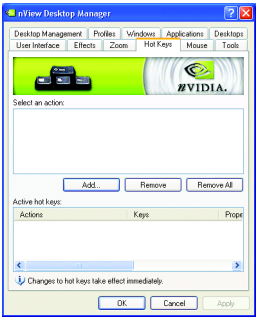
- This tab provides special windows effects that you can apply to your applications.

nView Zoom properties



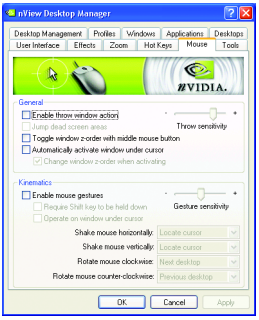
- This tab provides dynamic zoom functionality on the desktop. Also enables full screen video playback via the video mirroring control button.

nView Hot Keys properties



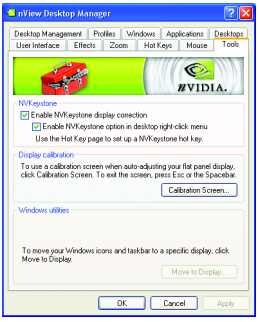
- This tab lets you perform various actions with shortcut keys or key combinations.

nView Mouse properties



- This tab can modify and extend mouse behavior with kinematic actions.

nView Tools properties



- This tab can improve nView functionality for mobile and desktop users.

3.2. Win® 2000 driver installation

With Windows running on your computer, you need to install the graphics card driver to take advantage of the higher performance, resolutions, and special graphics features of the graphics card. To ensure you install the latest driver, insert the Installation CD that shipped with your graphics card.

To install the graphics card driver for Win® 2000, please insert the Installation CD. Then the AUTORUN window will show up. Click **Install Display Driver** item, and follow the wizard to install the driver.

If Windows® does not show the CD automatically, please run following steps:

1. Click the Start button on the control bar.
2. Select Run.
3. Type the following: D:\SETUP.exe
   (If D is not your CD-ROM drive, substitute D with the correct drive letter.)
4. Click "OK".
5. Click on "Install Display Drivers" to begin the Installation Wizard.
6. Click "Next".
7. Click "Yes" to the license agreement.
8. Follow the Wizard's on-screen instructions to complete the installation.

Please make sure the Windows® 2000 have installed Windows® 2000 Service Pack (or later) before installing the graphics accelerator driver.

4. Troubleshooting Tips

The following troubleshooting tips may help if you experience problems. Contact your dealer or GBT for more advanced troubleshooting information.

- Check that the card is seated properly in the PCI Express x 16 slot.
- Ensure that the display cable is securely fastened to the card's display connector.
- Make sure that the monitor and computer are plugged in and receiving power.
- If necessary, disable any built-in graphics capabilities on your motherboard. For more information, consult your computer's manual or manufacturer.
  (NOTE: Some manufacturers do not allow the built-in graphics to be disabled or to become the secondary display.)
- Make sure you selected the appropriate display device and graphics card when you installed the graphics driver.
- Restart your computer.
  Press the F8 key on your keyboard after system starts up. When the Windows Advanced Options Menu appears, select Safe Mode and press Enter.
  After getting into Safe Mode, in Device Manager check whether the driver for the graphics card is correct.
- For more assistance, use the Troubleshooting Guide located in the Windows® Help or contact your computer manufacturer.

If necessary, adjust your monitor's setting by monitor's adjust panel to make the screen looks focused, crisp, and sharp. (Please refer to the monitor's manual.)

5. Appendix

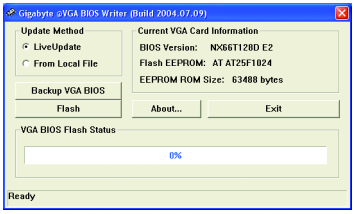
5.1. How to Reflash the BIOS

5.1.1. Reflash BIOS in MS-DOS mode

1. Extract the downloaded Zip file to your hard disk(s) or floppy disk. This procedure assumes drive A.
2. Restart the computer in MS-DOS mode. (For Windows 2000/XP, you need a startup disk to restart the computer in MS-DOS mode.)
3. Change the command prompt to A:\>.
4. To back up the current BIOS, at the A:\> prompt, type `[BIOS flash utility name] -s [BIOS file name]` **(example: gvf11 -s nx66t128d.f1)** and press **Enter**.
5. To flash BIOS, at the A:\> prompt, type `[BIOS flash utility name] -p [BIOS file name]` **(example: gvf11 -p nx66t128d.f2)** and press **Enter**.
6. Wait until it's done, then restart your computer.

5.1.2. Reflash BIOS in Windows mode

1. After installing the display drivers, you will find a GBT icon in the lower-right corner of the Taskbar. Right-click to select the @VGA utility.



@VGA flash BIOS utility.

2. Update BIOS through the Internet
   a. Select the Live Update check box and click Flash. Then @VGA will automatically download the BIOS for your card from GBT @VGA server and do the update for you.(@VGA will not download/update the BIOS if it detects the current BIOS on your card is the latest one.)
3. Update BIOS NOT through the Internet
   a. Download the BIOS ZIP file for your card from GBT website and extract it to your hard disk (or floppy disk).
   b. Select the From Local File check box and then click Flash.
   c. Select the BIOS file from your hard disk (or floppy disk).
   d. Complete the update procedure following the on-screen instructions.

5.2. Resolutions and Color Depth Table (In Windows® XP)

GeForce 6600 GT Single Display Stardard Modes

Display Screen Resolution	Max.Refresh Rate (Hz)	Color Depth (bpp) 8bpp(256 color) Standard mode	16bpp(65K color) High mode	32bpp(16.7M) True mode
320 x 200	75	✓	✓	✓
320 x 240	75	✓	✓	✓
400 x 300	75	✓	✓	✓
480 x 360	75	✓	✓	✓
512 x 384	75	✓	✓	✓
640 x 400	75	✓	✓	✓
640 x 480	240	✓	✓	✓
720 x 480	60	✓	✓	✓
720 x 576	60	✓	✓	✓
800 x 600	240	✓	✓	✓
848 x 480	240	✓	✓	✓
1024 x 768	240	✓	✓	X
1088 x 612	240	✓	✓	X
1152 x 864	200	✓	✓	X
1280 x 720	170	✓	✓	X
1280 x 768	170	✓	✓	X
1280 x 800	170	✓	✓	X
1280 x 960	170	✓	✓	X
1280 x 1024	170	✓	✓	X
1360 x 768	170	✓	✓	X
1600 x 900	150	✓	✓	X
1600 x 1024	120	✓	✓	X
1600 x 1200	120	✓	✓	X
1920 x 1080	100	✓	✓	X
1920 x 1200	100	✓	✓	X
1920 x 1440	85	✓	✓	✓
2048 x 1536	85	✓	✓	✓

This table is for reference only. The actual resolutions supported depend on the monitor you use.